

Environment and Finance

ENV 163

Magali Delmas
UCLA

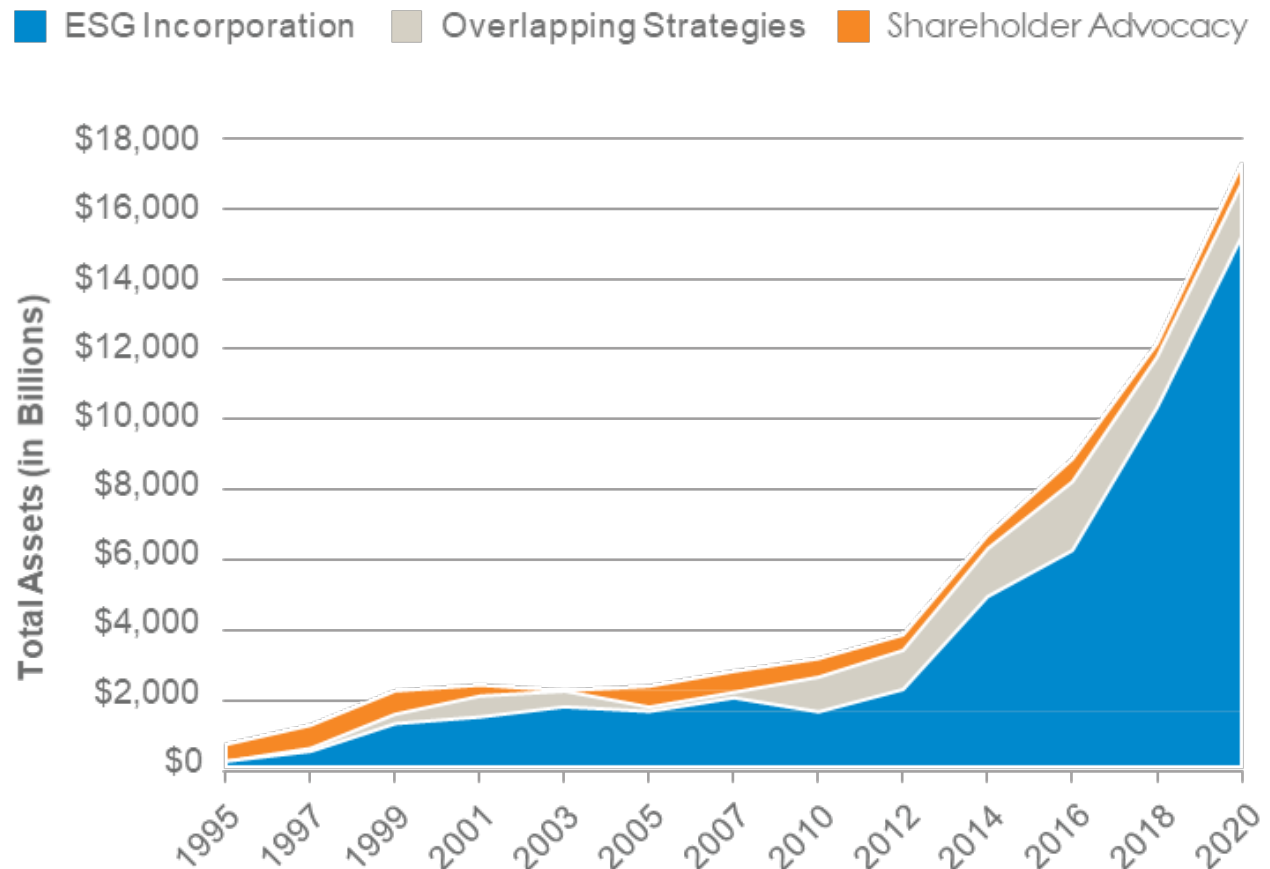
What is Socially Responsible Investing?

Socially Responsible Investing

- Integrating personal values and societal concerns with investment decisions
- Social investors include individuals and institutions such as corporations, universities, hospitals, foundations, insurance companies, pension funds, nonprofit organizations...
- Inclusion or exclusion of corporate securities in investment portfolios based on social and environmental criteria.
- Environmental information as a powerful tool.

- SRI assets total \$17 trillion in the U.S.= more than one out of every three dollars under professional management in the United States
- Great potential to influence corporations' behavior related to the environment

Sustainable Investing in the United States 1995–2020



Source: <https://www.ussif.org/sribasics>

Sustainable Investing Assets 2020

ESG Incorporation

- By Money Managers on Behalf of Individual/Retail Investors **\$4,550 Billion**
- By Money Managers on Behalf of Institutional Investors **\$12,014 Billion**

Overlapping Strategies
(\$1,462 Billion)

Filing Shareholder Resolutions

- Institutional Investors **\$1,658 Billion**
- Money Managers **\$322 Billion**



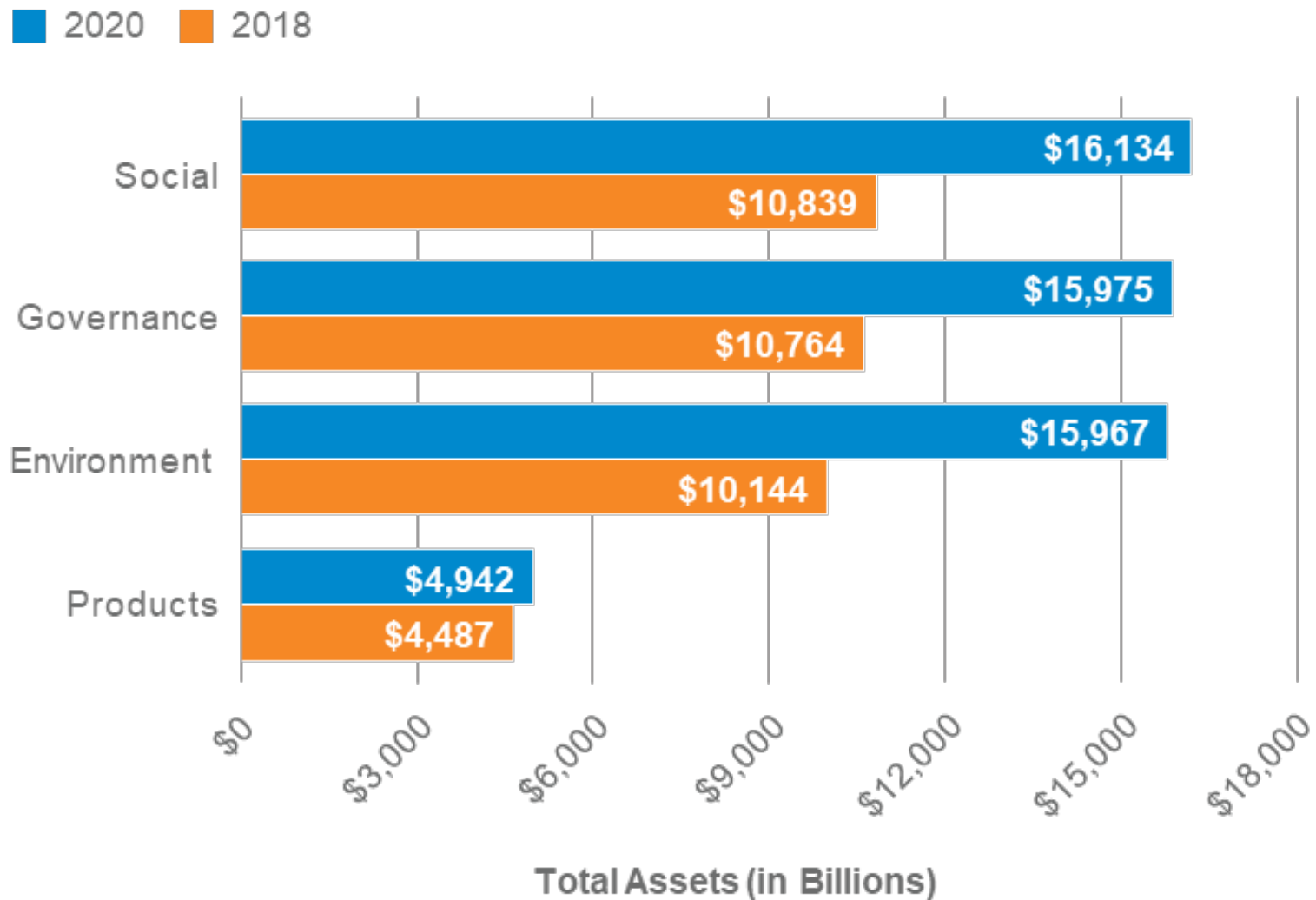
ESG Incorporation

Shareholder Resolutions

Total: \$17,081 Billion

SOURCE: US SIF Foundation.

ESG Categories Incorporated by Money Managers 2018–2020



SOURCE: US SIF Foundation.

What are ESGs?

Environmental: _____

Social : _____

Governance : _____

—

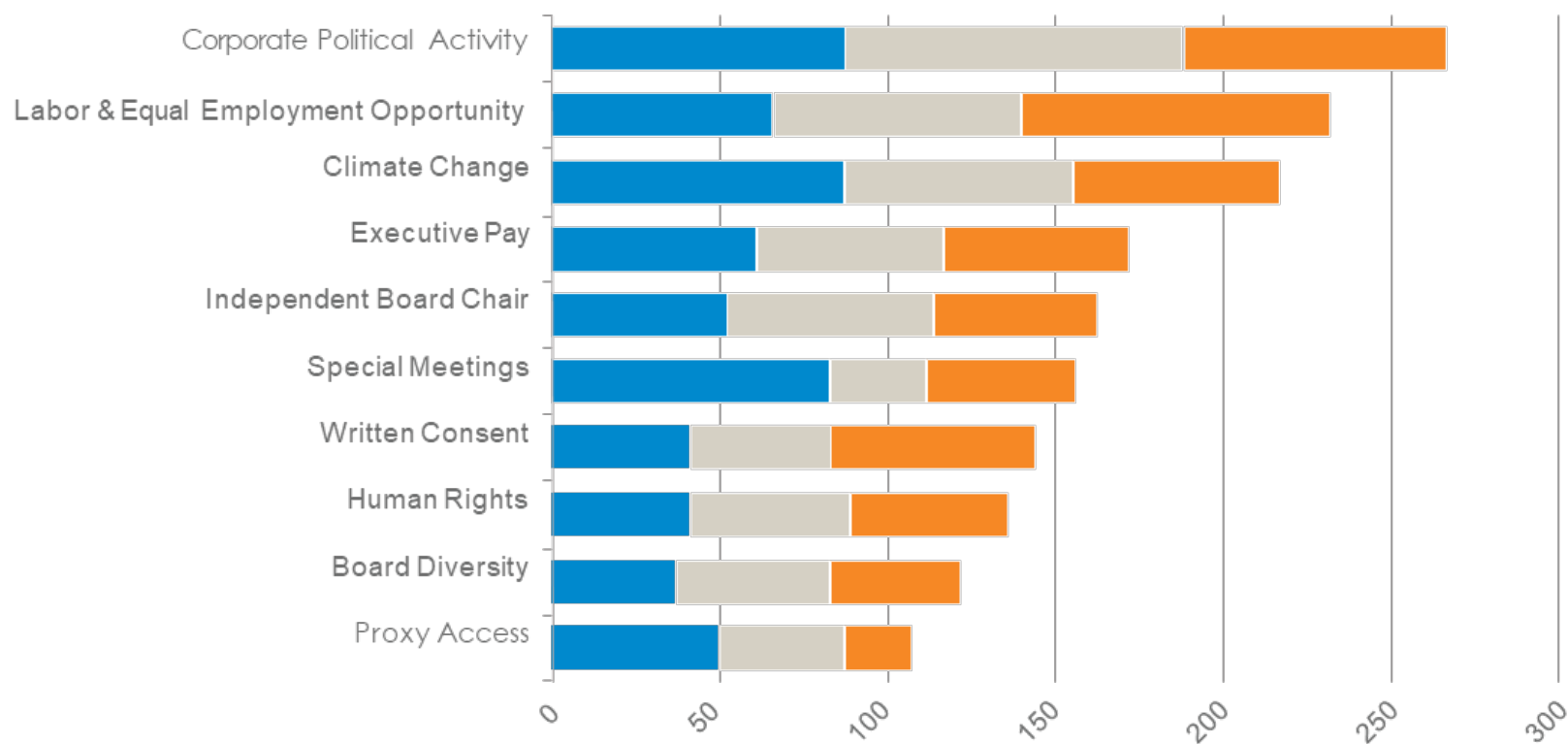
Write these down in the
chat

Common ESG issues

- Environmental
 - climate,
 - energy efficiency,
 - waste
 - water ...
- Social
 - workplace safety,
 - labor relations,
 - workplace benefits,
 - diversity,
 - community relations and human rights
- Corporate governance
 - political contributions,
 - executive compensation,
 - board diversity,
 - transparency and board independence

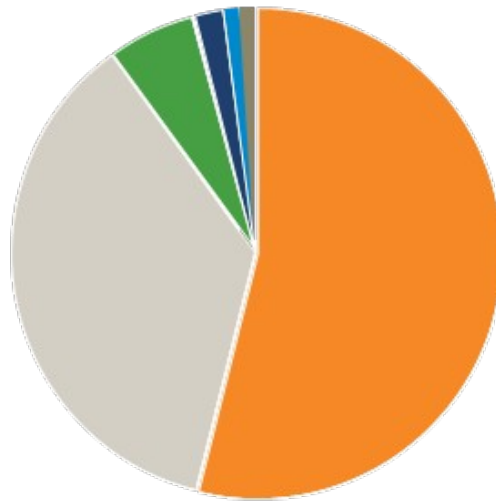
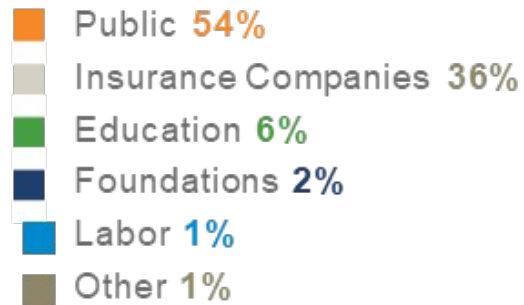
Leading ESG Issues 2018-2020, by Number of Shareholder Proposals Filed

■ 2018 ■ 2019 ■ 2020



SOURCE: US SIF Foundation, ISS ESG, Sustainable Investments Institute.

Institutional Investor ESG Assets, by Investor Type, 2020



SOURCE: US SIF Foundation.

NOTE: Other consists of family offices, healthcare institutions, faith-based institutions and other nonprofits that collectively represent about 1 percent of ESG assets in 2020.

SRI methods

- Most funds use basic screening methodologies (example: screen out tobacco companies)
- Others use more sophisticated methodologies including environmental performance, compliance, and environmental management practices

Vocabulary and Definition: What is Sustainability and Impact Investing?

- **Ethical Investing** – Investment philosophy guided by **morals, ethics or religious beliefs** in which investment decisions include non-economic criteria. The practice is traditionally associated with exclusionary screening.
- **Socially Responsible Investing (SRI)** - Similar to ethical investing in that it may involve trade-offs between social and financial performance. Seeks **to minimize negative social impact by predominantly using exclusionary screens**.
- **Impact Investing** – Discipline that combines consideration of financial performance with social and environmental performance. Distinguished from SRI by **allocating capital and engaging company management to actively produce positive social impact**.
- **Environmental, Social and Corporate Governance (ESG) Criteria** – A variety of issues that investors consider in the context of corporate behavior. Though no definitive list of ESG issues exists, they often include issues that have traditionally been considered non-financial and have a focus on a changing regulatory environment, the public-concern or supply-chain management.
- **Sustainable Investing** – The integration of **ESG considerations into the investment management process with the objective of creating positive financial impact for investors**.

Who measures ESGs?

ESG research firms

Trucost
ESG Analysis

S&P Global



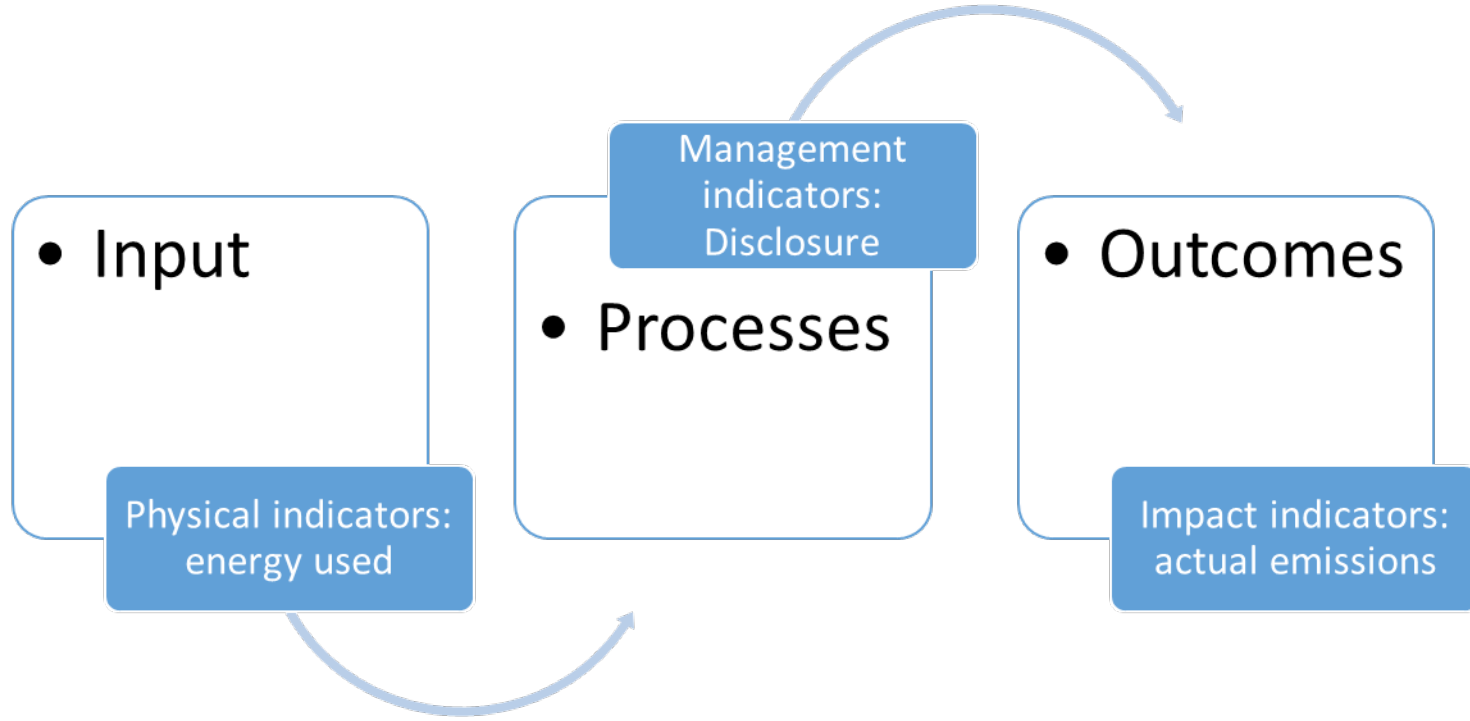
ROBECOSAM
We are Sustainability Investing.



Bloomberg

What are the metrics for
ESGs?

Indicators



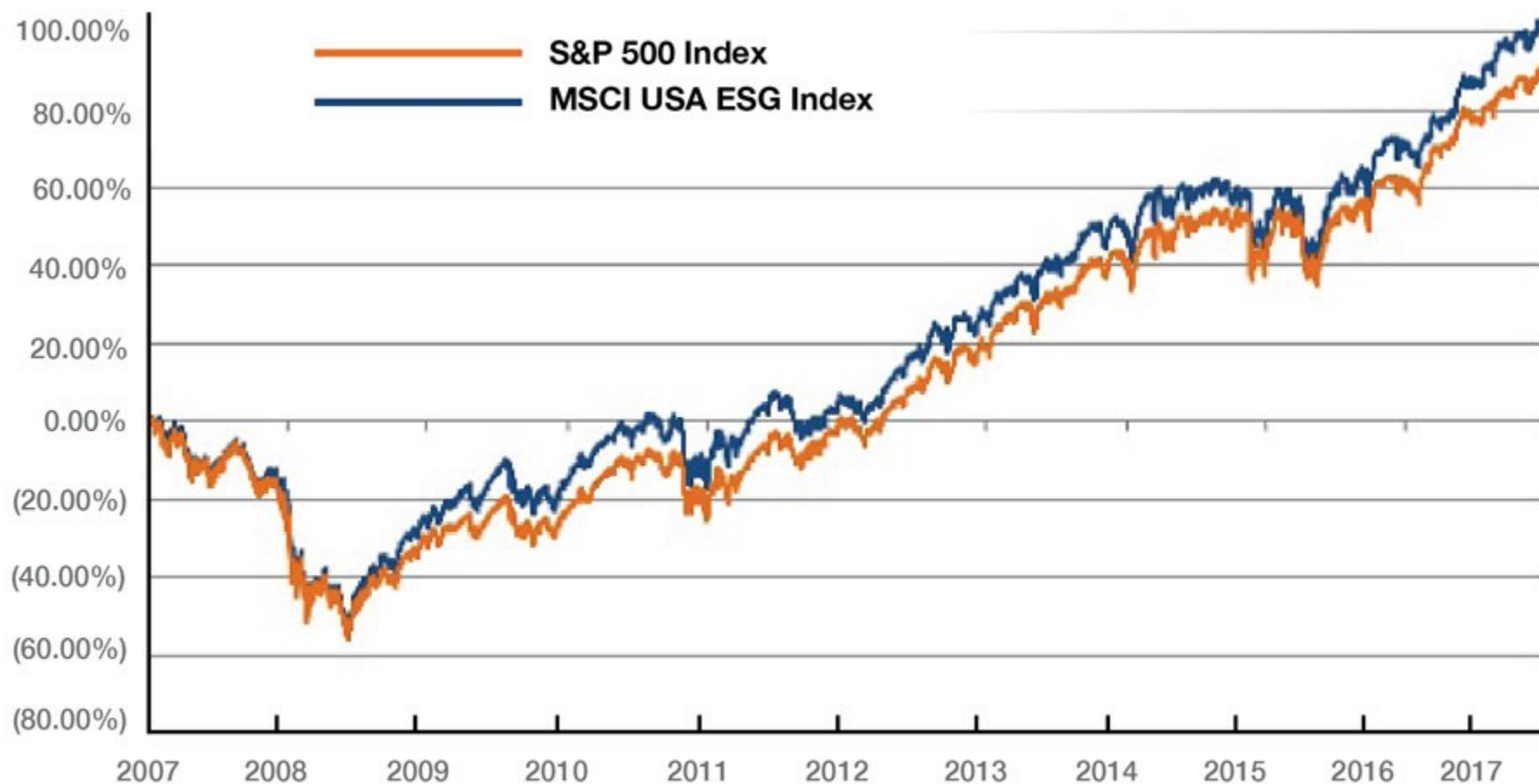
MSCI ESG KLD

Level 1 Categories	Environmental	Social	Governance
Level 2 Issues	Climate Change Products and Services Operations & Mgt Other	Community Diversity Employee Relations Human Rights Product	Reporting Structure Other
Level 3 Items	<p>Concerns</p> <p>Climate Change</p> <p>Ozone depleting chemicals Agricultural chemicals Hazardous waste Regulatory problems Substantial emissions</p> <p>Strengths</p> <p>Clean energy</p>	<p>Concerns</p> <p>Investment controversies Negative economic impact Tax disputes Other concerns</p> <p>Strengths</p> <p>Charitable giving</p>	<p>Concerns</p> <p>Public Policy Transparency Ownership Accounting</p> <p>Strengths</p> <p>Political</p>

Common ESG issues

- Environmental
 - climate,
 - energy efficiency,
 - waste
 - water ...
- Social
 - workplace safety,
 - labor relations,
 - workplace benefits,
 - diversity,
 - community relations and human rights
- Corporate governance
 - political contributions,
 - executive compensation,
 - board diversity,
 - transparency and board independence

Is there a link between
ESGs and Financial
Performance?



*Source: FactSet Research Systems
(Backtested simulation from Sept. 30, 2007, to Sept. 30, 2017).*

*Can you think about one example on how investing in one of the elements of ESGs can improve financial performance?



ESG

SAMPLE ISSUE

POTENTIAL IMPACT

"E" ENVIRONMENTAL

Environmental Disclosure & Transparency
Energy Efficiency
Waste Management

Lower Regulatory & Reputational Risk
Save on Energy Costs
Reduce Environmental Liabilities

"S" SOCIAL

Diversity, Labor and Human Rights Issues
Product Safety & Quality
Community Relations and Philanthropy

Mitigate Litigation Risk
Create Brand Loyalty
Protect Standing in Communities

"G" GOVERNANCE

Transparent Financial Disclosure
Reasonable Executive Compensation
Employee Satisfaction

Improve Shareholder Relations
Lessen Headline Risk
Dampen Turnover of Personnel

<https://www.westernsouthern.com/touchstone/insights/viewpoints/what-is-sustainability-and-impact-investing>

Environmental performance a proxy of good management?

“Companies’ ability to handle political, environmental, labor, and human rights risks are powerful proxies and leading indicators for their overall management quality – or the lack thereof.”

Innovest Strategic Value advisors

Larry Fink, BlackRock CEO of the world's largest investing firm (\$7T under management) "I believe we are on the edge of a fundamental reshaping of finance."

- Companies "need to contribute to society" if they want BlackRock's support -January 16, 2018 NYT Letter
- **<https://tinyurl.com/ydfh6mzc>**
- "Environmental, social, and governance (ESG) factors relevant to a company's business can provide essential insights into management effectiveness and thus a company's long-term prospects



Main Screening Challenges

- Where to find the information? How credible is the data?
- Which indicators and variables should be included in the analysis?
 - Environmental impact (toxic releases, air, water...)
 - Regulatory compliance (number of violations, fines...)
 - Management practices and reporting (ISO 14001, environmental reporting)
- How do you assign weights to specific criteria?
- Positive versus negative screening
- Choosing the comparison group wisely
- Static versus dynamic comparison



P&G

AVON



EASTMAN



Johnson & Johnson



ECOLAB®



Firm ESG evaluation

- 1. Goal of the evaluation
- 2. Where to find the information
- 3. How many indicators to include
- 4. Choose variables with variability
- 5. Negative or positive screening?
- 6. How to aggregate the indicators?
- 7. How to normalize for size?
- 9. Choosing the comparison group wisely
- 10. How to integrate time?
- 11. How credible is the rating?

1. Goal of the evaluation

1. Goal of evaluation

- What is the goal of the evaluation?
 - Efficiency of the company (potential for cost savings)
 - Compliance (potential for penalties)
 - Toxicity (potential for liabilities)
 - Exposure of the company as compared to the industry (the big polluter will be more likely to be the target of environmental activists)
 - Social impact?
- How do each of these potentially impact the bottom line

What does the score mean?

- Be clear on what the goal is:
 - Comprehensiveness
 - Toxicity
 - Trends, improvements
 - Etc...
- The score needs to be easy to communicate to investors or stakeholders in general

2. Where to find the information?

ECHO

Enforcement and Compliance X

https://echo.epa.gov/?redirect=echo

EPA United States Environmental Protection Agency

Español | 中文: 繁體版 | 中文: 简体版 | Tiếng Việt | 한국어

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ECHO

Enforcement and Compliance History Online

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✓ You have been redirected from the former ECHO site to the modernized ECHO, now at echo.epa.gov. Please update your bookmarks, and see our [ECHO Modernization Information](#) page to learn about the new ECHO.

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Use EPA's Enforcement and Compliance History Online website to search for facilities in your community to assess their compliance with environmental regulations. You can also investigate pollution sources, examine and create enforcement-related maps, or explore your state's performance. [Learn more about ECHO](#)

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Facility Search Results | EC

https://echo.epa.gov/facilities/facility-search/results

You are here Home » Facilities » Facility Search » Facility Search Results

Facility Search Results

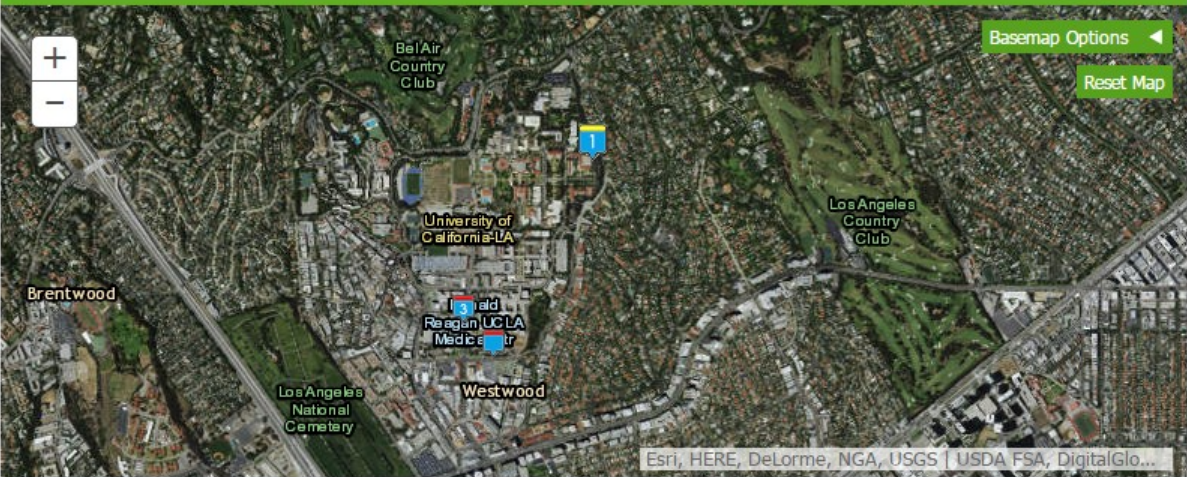
New Jersey Clean Water Act data and some Clean Air Act data are frozen. [Read More...](#)

Hide MapHide TableHide SummaryModify Search

Report ViolationHelp

Map Legend

Basemap OptionsReset Map



Search Statistics

3 Search Results

0 Facilities with a Current Violation/s

1 Facilities with Violations in the Last Three Years

0 Facilities with Formal Enforcement Actions in the Last Five Years

1 CAA Sources

0 Facilities with CWA Permits

3 Facilities with RCRA IDs

0 Facilities with TRI Releases

Facility Summary

Search Criteria

City, State, and/or ZIP Code: 90095
Active/Operating=Yes

Modify Search

Customize ColumnsDownload CSV FileDownload Excel File

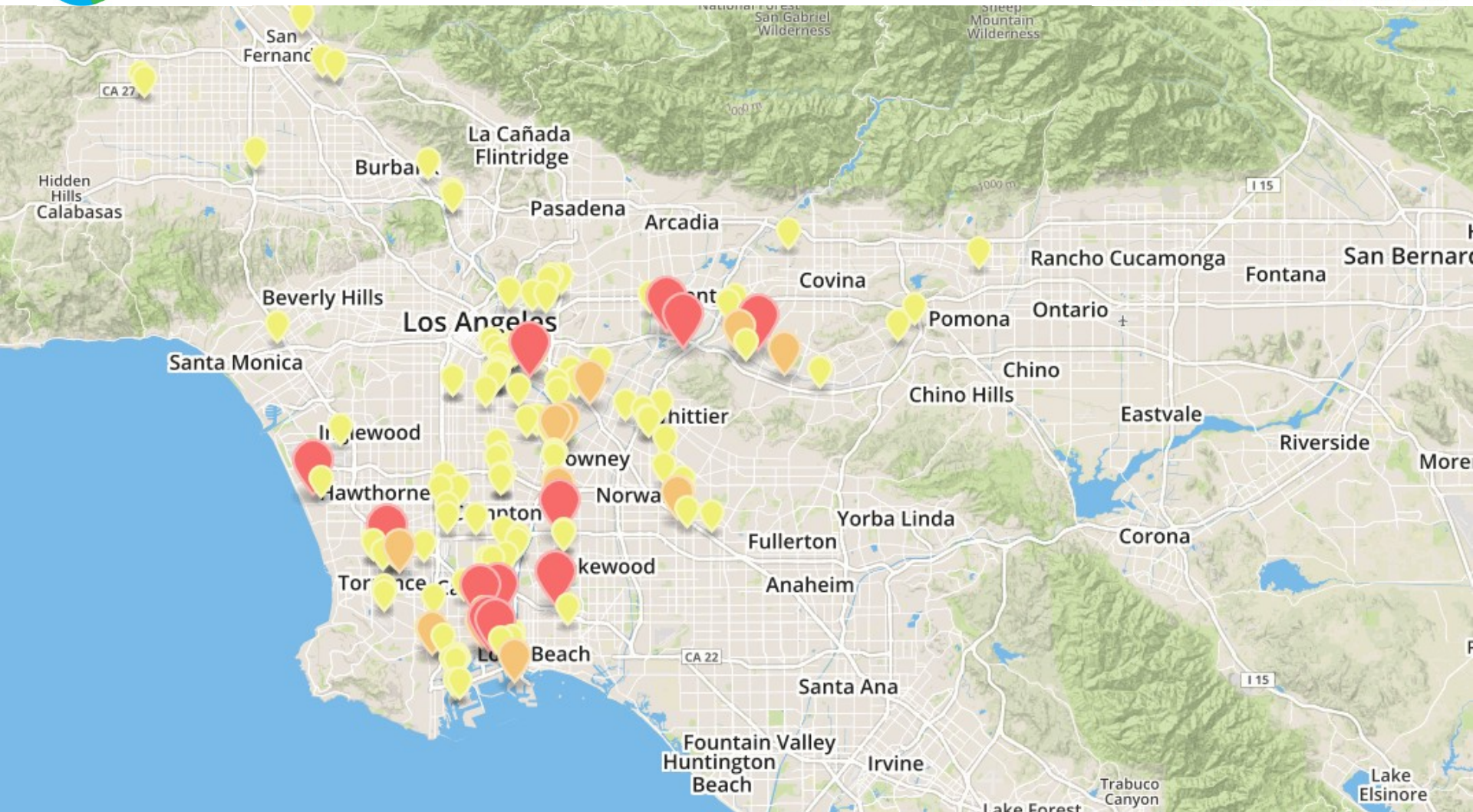
Results GuideReports Legend

Facility Name	Mapped	Street Address	City	State	FRS ID	Reports	Current Significant Violations	Quarters Non Comp (3 yrs)	Inspections (5 yrs)	Formal Enforcement Actions (5 yrs)
UNIVERSITY OF CALIFORNIA, LOS ANGELES		405 HILGARD AVE	LOS ANGELES	CA	110001191068	<div>CIA</div>	N	1	6	
UCLA MEDICAL CENTER		10833 LE CONTE AVENUE	LOS ANGELES	CA	110032729581	<div>C</div>	N	0	0	
REAGAN UCLA MEDICAL CENTER		757 WESTWOOD PLAZA	LOS ANGELES	CA	110037380919	<div>C</div>	N	0	1	

Date Last Updated

Toxic Releases

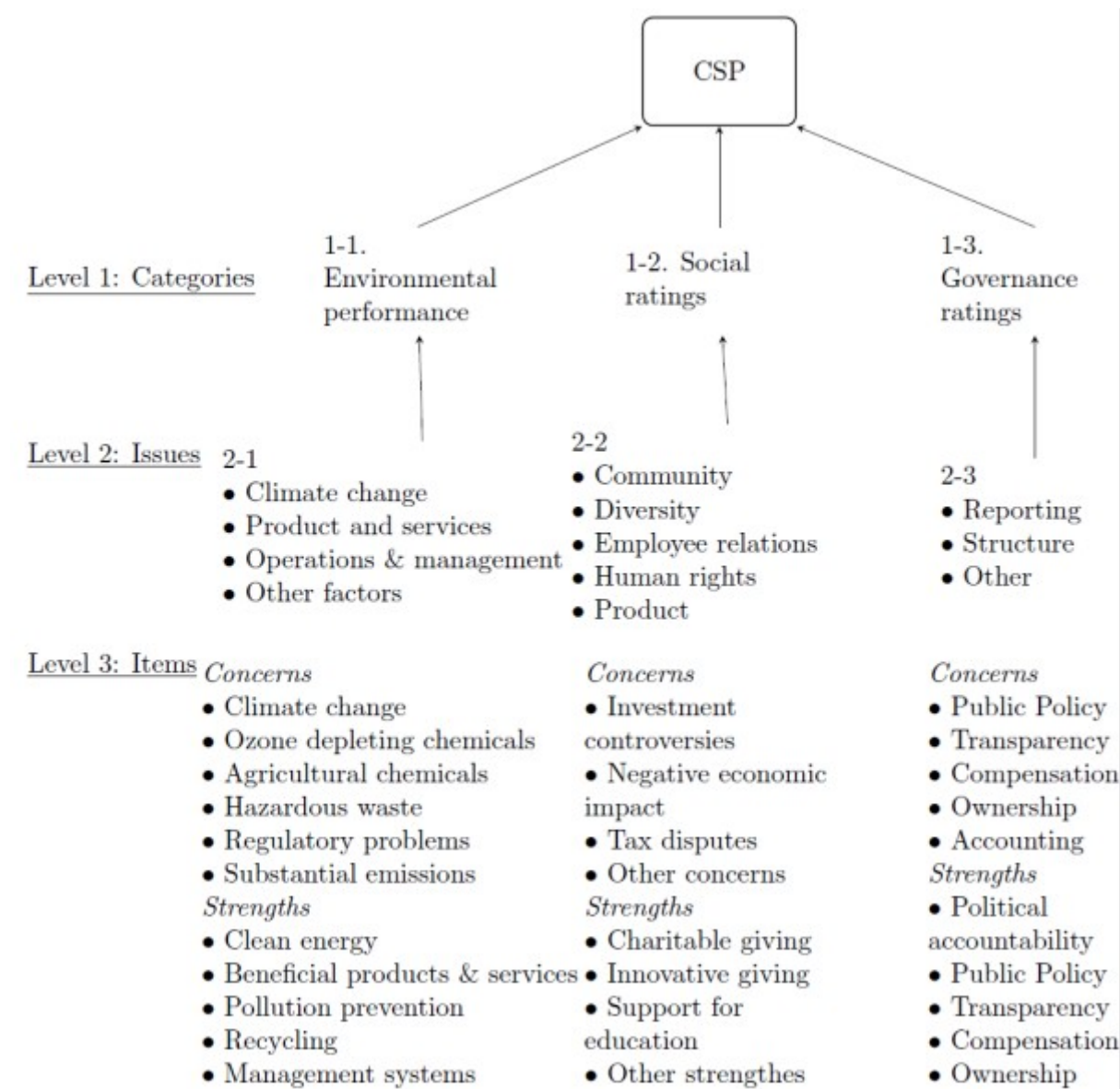
- Toxics Release Inventory (TRI)
 - US EPA collects data on releases and transfers of certain toxic chemicals from industrial facilities, and makes the data available to the public in TRI
- Total Pounds
 - Main common method is aggregation and unweighted sum of hazardous pollutants



<https://www.ioes.ucla.edu/calecomaps/>

MSCI ESG KLD STATS

- MSCI ESG Research collects information from company disclosures, academic datasets, government databases, NGO sources, media, and other stakeholders.
- Strengths:
 - Beneficial products and services
 - Pollution prevention
 - Alternative fuels
 - Management systems
 - Natural resource use: water stress
 - Natural resource use: raw material sourcing
- Concerns:
 - Regulatory problems
 - Substantial emissions
 - Climate change
 - Negative impact of products and services
 - Land use and biodiversity
 - Non carbon releases
 - Supply chain management
 - Water stress



Exercise Spreadsheet

Credibility of the data

- How is the information gathered?
- Surveys?
- Example SAM

SAM

- **Opportunities and Risks**

- Assess the opportunities and risks deriving from economic, environmental and social dimensions of each of the eligible companies in the DJSI investable stocks universe.

- **Diversifying Information Sources**

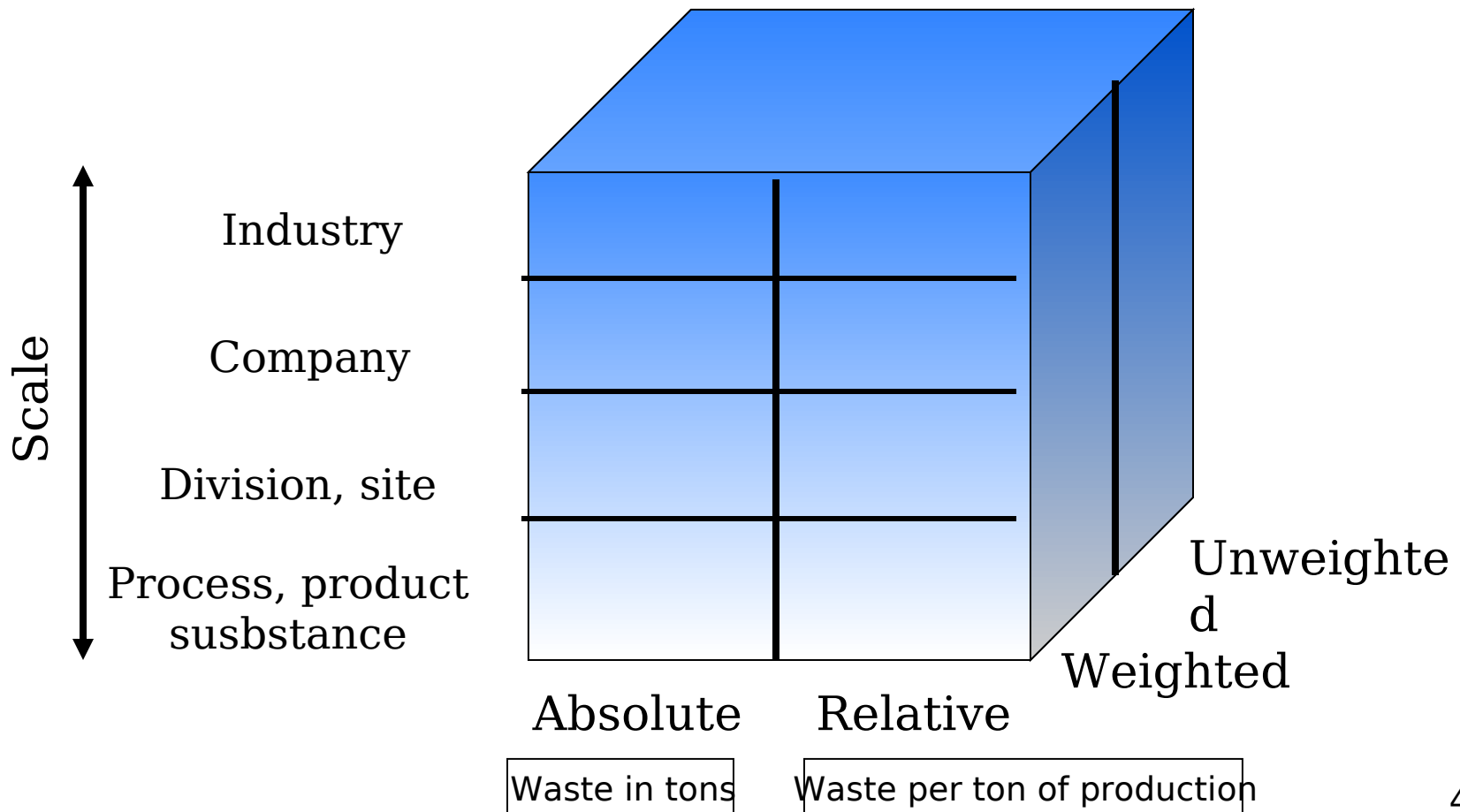
- For each company, the input sources of information for the Corporate Sustainability Assessment consist of the responses to the Corporate Sustainability Assessment Questionnaire, submitted documentation, policies and reports, publicly available information and analyst's direct contact with companies.

- **Verification**

- To ensure quality and objectivity an external audit and internal quality assurance procedures, such as crosschecking of information sources are used to monitor and maintain the accuracy of the input data, assessment procedures and results.

3. How many indicators to include?

Environmental indicators: scale and form



Single indicator Ex: Royal Mail

- Calculates an absolute aggregate indicator of its CO₂ based on both electricity and fuel consumption
- Measure expressed as grams of CO₂ per thousand letters delivered
- At different levels of aggregation
 - individual sorting and delivery offices
 - regional and national level

Problems with single indicators

- If the GWP indicators shows an improvement but at the same time water pollution has increased, has the company improved its overall environmental performance?
- Were its environmental expenditures spent more effectively?
- Should there be weighted indicators?

Arguments against weighted indicators

- The result of aggregation can obscure their key indicators
- British Airways abandoned weighted indicators because the lack of a sound scientific basis left it open to external criticism
- European Chemical industry expressed fear that it might adversely affect their public relations

Ruff et al. 1998: Survey of public affairs officers, executives, NGOs and managerial accountants

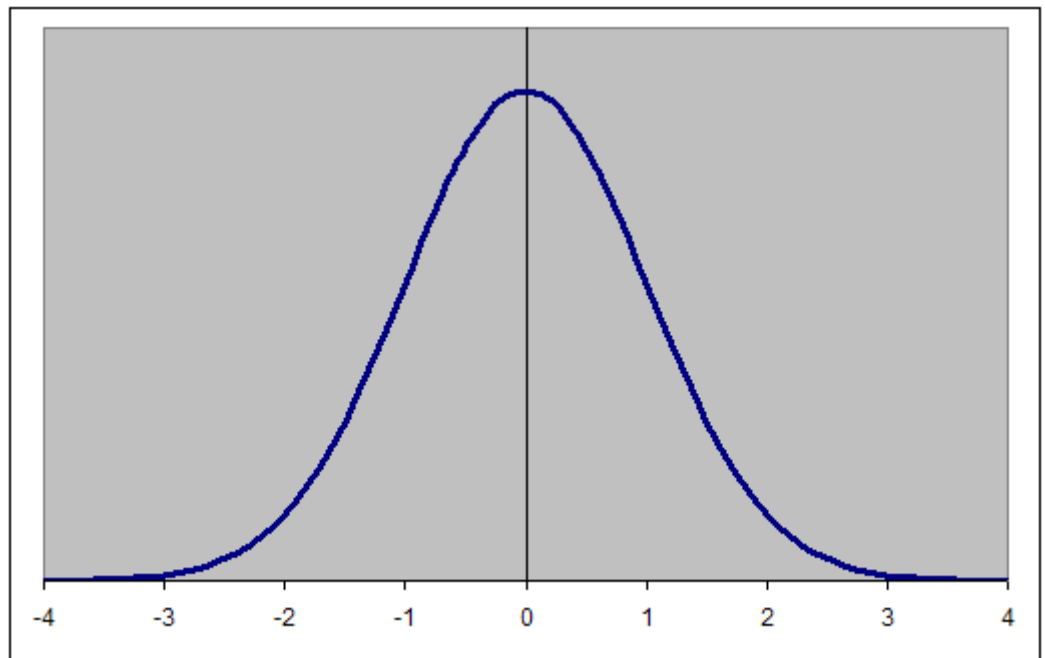
Waddock and Graves 1997: Expert opinions

Category	Equal weights	Ruf et al. (1998)	Waddock and Graves (1997b)
W1-community	0.111	0.125	0.148
W2-diversity	0.111	0.152	0.136
W3-employee relations	0.111	0.183	0.168
W4-environment	0.111	0.141	0.142
W5-human rights	0.111	0.152	0.136
W6-product and services	0.111	0.228	0.154
W7-nuclear power	0.111	0.089	0.074
W8-military contract	0.111	0.086	0.050
W9-South Africa	0.111	0.076	0.046

4. Choose variables with variability

Choose variables with variability

- How are firm's distributed based on the ranking
- Which part of the population is targeted for the ranking?



Environmental Management System

Firm	EMS (Yes/No)	ISO14001/ RC 14001	# certified facilities
Avon Products, Inc.	yes	yes	N/A
Clorox Company	N/A	N/A	N/A
Colgate-Palmolive Company	yes	no	N/A
Dial Corporation (The)	yes	yes	10
Dow Chemical Company	yes	yes	12
DuPont Company	yes	yes	10
Eastman Chemical Company	yes	yes	13
Ecolab Inc.	yes	yes	14
International Flavors & Fragrances Inc.	N/A	N/A	N/A (96%)
Johnson & Johnson	yes	yes	N/A
Lilly (Eli) and Company	yes	yes	3- not in the USA
Merck & Co., Inc.	yes	yes	1
Pfizer, Inc.	yes	yes	7
Procter & Gamble Company	yes	yes	N/A (66%)
			52

5. Negative or positive screening?

Negative or positive screening?

- Negative: exclusionary screenings
- Positive: identify best performers
- Focusing on penalizing corporations based on poor performance vs rewarding corporations based on good performance
- How to weigh the bad, the good and the ugly?
- KLD concerns and strengths

Screening Firms (2012)

Firm	Tobacco, Substantial Involvement (TOBconA)	Environmental Concern, Regulatory Compliance (ENVconB)
Avon Products		
Colgate- Palmolive		
Clorox		
DuPont		x
Dow Chemical		x
Ecolab		
Eastman Chemical	x	
Int'l Flavors & Fragrances		
Johnson & Johnson		
Eli Lilly		
Merck		x
Pfizer		

Financial Information

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Firm	Rank	ROA
Colgate-Palmolive	1	0.185
Clorox	2	0.124
Eli Lilly	3	0.119
Johnson & Johnson	4	0.089
Procter & Gamble	5	0.081
Pfizer	6	0.078
Int'l Flavors & Fragrances	7	0.078
Merck	8	0.058
DuPont	9	0.056
Ecolab	10	0.040
Eastman Chemical	11	0.038
Dow Chemical	12	0.017
Avon	13	-0.006

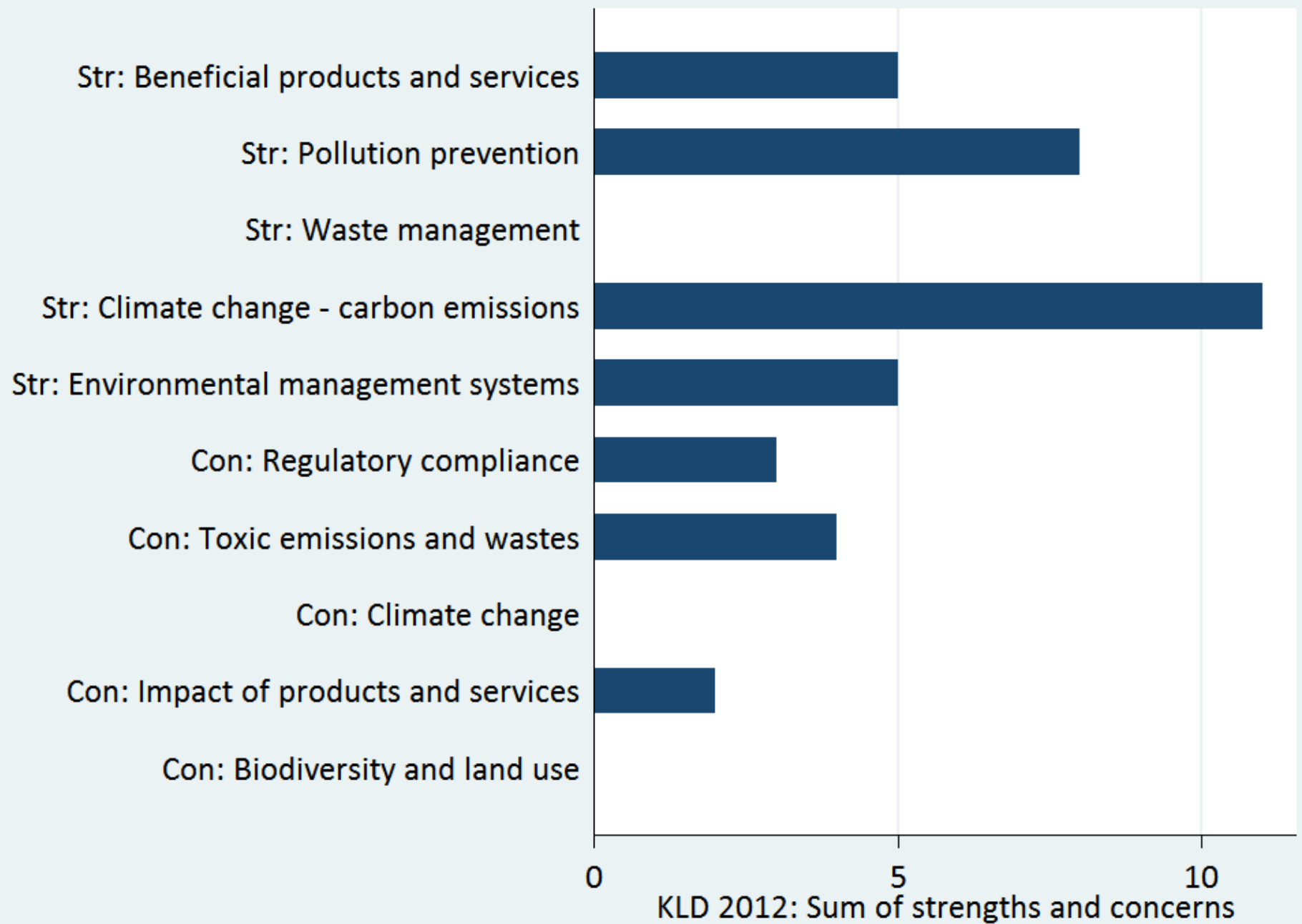
2012

Contributor measures or management indicators

- Measure the internal workings of the organization
 - such as management systems
- Environmental investment
 - money invested in technology change
- Training
 - number of sites with employees trained in environmental health and safety
- Management commitment
 - number of times a year plant managers address environmental issues with staff
- Employee awareness
 - percentage of employees aware of environmental issues, tracked by survey
- Systems
 - existence of a management plan for each underground storage site

KLD: Environmental Strengths and Concerns

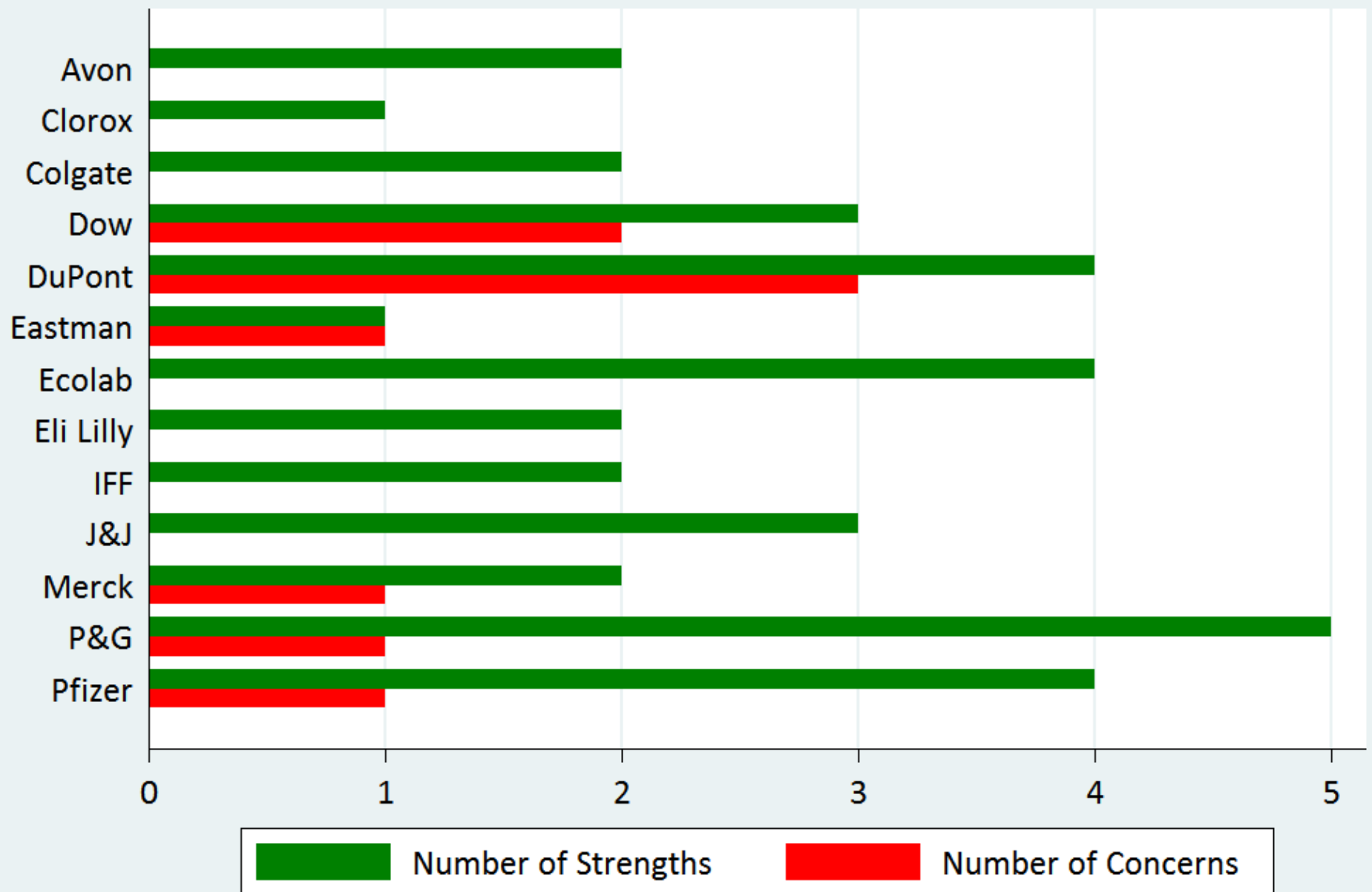
- Beneficial Products & Services
- Pollution Prevention
- Waste management
- Climate change - carbon emissions
- Other Strength
- Total Number of Environment Strengths
- Regulatory Compliance
- Toxic emissions and wastes
- Climate change
- Impact of products and services
- Biodiversity and land use Other Concern
- Total Number of Environment Concerns



Correlations

	1	TRI TP	TRI_Size	RSEI	RSEI/ Sales	KLD Concerns	KLD Strengths
1 TRI_TP TRI Total pounds (2009-2011)	1	1					
2 TRI_Size TRI Total pounds/Total sales (2009-2011)		.824**	1				
3 RSEI_score RSEI Risk score (2009-2011)		.679**	.870**	1			
4 RSEI_size RSEI Risk score/Total sales (2009-2011)		.638**	.934**	.945**	1		
5 KLD_Concerns Total # concerns (2009-2011)		.746**	.540**	.591**	.444**	1	
6 KLD_Strengths Total # strengths (2009-2011)		.348**	.266**	.270**	.192**	.324**	1

KLD 2012



Correlations

	1	TRI TP	TRI_Size	RSEI	RSEI/ Sales	KLD Concerns	KLD Strengths
1 TRI_TP TRI Total pounds (2009-2011)	1	1					
2 TRI_Size TRI Total pounds/Totalsales (2009-2011)		.824**	1				
3 RSEI_score RSEI Risk score (2009-2011)		.679**	.870**	1			
4 RSEI_size RSEI Risk score/Totalsales (2009-2011)		.638**	.934**	.945**	1		
5 KLD_Concerns Total # concerns (2009-2011)		.746**	.540**	.5911**	.444**	1	
6 KLD_Strengths Total # strengths (2009-2011)		.348**	.266**	.270**	.192**	.324**	1

TRI Ranking Results (2012)

Firm	Rank Based on:		Actual Pounds	
	Total Release	Total Air Release	Total Release	Total Air Release
Avon	1	1	0	0
Colgate-Palmolive	2	2	2,481	1,048
Clorox	3	4	6,875	4,931
Int'l Flavors & Fragrances	4	3	12,026	2,423
Ecolab	5	5	17,310	7,550
Johnson & Johnson	6	6	47,829	47,641
Eli Lilly	7	8	146,765	102,536
Merck	8	9	183,589	106,000
Pfizer	9	7	962,451	101,948
Procter & Gamble	10	10	1,015,571	237,788
Eastman Chemical	11	11	9,205,203	5,378,641
Dow Chemical	12	12	18,077,712	5,665,923 ⁶³

TRI Ranking Results Control for Size (2012)

Firm	Total Release	Total Air Release	Total Release / Sales	Total Release / Facility	Total Air Emissions / Sales	Total Air Emissions / Facility
Avon	1	1	1	1	1	1
Colgate-Palmolive	2	2	2	3	2	2
Clorox	3	4	4	2	6	3
Int'l Flavors & Fragrances	4	3	7	6	5	5
Ecolab	5	5	5	4	3	4
Johnson & Johnson	6	6	3	5	4	6
Eli Lilly	7	8	8	8	10	10
Merck	8	9	6	7	8	7
Pfizer	9	7	10	10	7	9
Procter & Gamble	10	10	9	9	9	8
Eastman Chemical	11	11	12	13	13	13
Dow Chemical	12	12	11	11	11	11

TRI and RSEI Ranking Results (2012)

Firm	Rank based on TRI Total Release (lb)	TRI Total Release (lb)	Rank based on RSEI Risk score	RSEI Risk score
Avon	1	0	1	0
Colgate-Palmolive	2	2,481	3	106
Clorox	3	6,875	2	8
Int'l Flavors & Fragrances	4	12,026	7	969
Ecolab	5	17,310	4	198
Johnson & Johnson	6	47,829	10	10,573
Eli Lilly	7	146,765	6	258
Merck	8	183,589	8	1,515
Pfizer	9	962,451	9	1,932
Procter & Gamble	10	1,015,571	5	218
Eastman Chemical	11	9,205,203	12	132,288
Dow Chemical	12	18,077,712	11	35,399
DuPont	13	44,070,075	13	136,120

Main Results

- Results suggest that the ranking might vary according to the performance measure used: total performance based on total pounds does not equate the performance in one of the more specific categories

Comparing Rankings

Firm	TRI (total pounds)	RSEI (risk 02)	ECHO (Non- Compliance Quarters)
Avon Products, Inc.	1	1	7
Ecolab Inc.	2	6	6
Clorox Company	3	7	5
Colgate-Palmolive Company	4	3	1
International Flavors & Fragrances Inc.	5	2	1
Johnson & Johnson	6	4	4
Procter & Gamble Company	7	11	8
Merck & Co., Inc.	8	5	14
Pfizer, Inc.	9	9	11
Lilly (Eli) and Company	10	8	15
Rohm and Haas Company	11	10	10
Eastman Chemical Company	12	13	12
Dow Chemical Company	13	12	9
DuPont Company	14	14	13
Dial Corporation	N/A	N/A	1

6. How to aggregate the indicators?

To weigh or not to weigh?

- Not assigning weights is assigning weights.
- Be clear on the percentages and what this means for the ranking overall
- Model behind the ranking, how do the criteria relate to the bottom line?
- Survey of importance of criteria
- Transparency and replicability are required

Weights

Firm	RSEI Risk (2002)	1/3 TRI, ECHO, Report	90% reportin g	DS400 (2002)
Avon Products, Inc.	1	7	14	1
International Flavors & Fragrances Inc.	2	4	11	0
Colgate-Palmolive Company	3	2	7	1
Johnson & Johnson	4	3	3	1
Merck & Co., Inc.	5	9	5	1
Ecolab Inc.	6	1	4	1
Clorox Company	7	5	13	1
Lilly (Eli) and Company	8	12	6	0
Pfizer, Inc.	9	10	9	0
Rohm and Haas Company	10	12	9	1
Procter & Gamble Company	11	6	8	1
Dow Chemical Company	12	8	2	0
Eastman Chemical Company	13	14	12	0
DuPont Company	14	11	1	0
Dial Corporation (The)	N/A	N/A	N/A	0

7. How to normalize for size?

How to normalize for size?

- # facilities
 - Average per facility, used to control for size
 - However, some facilities may produce more than others
 - May not vary much over time
- Revenues
 - In order to control for differences in company size
 - Takes into account changes in demand per year
- Profit
 - Does not control for difference in size
 - A measure of how dirty or clean are the profit
 - Same idea for stock price

Trends

Firm	Rank based on RSEI Risk Score 2012	Rank based on RSEI trend 2009-2012
Avon	1	4
Clorox	2	2
Colgate-Palmolive	3	11
Ecolab	4	12
Procter & Gamble	5	1
Eli Lilly	6	8
Int'l Flavors & Fragrances	7	10
Merck	8	3
Pfizer	9	7
Johnson & Johnson	10	13
Dow Chemical	11	6
Eastman Chemical	12	5
DuPont	13	9

9. Choosing the comparison group wisely

Choosing the comparison group wisely

- In our sample, average TRI releases in pounds per unit of sale is 1.8 lb/\$ for SIC 284 against 12.5 lb/\$ for SIC 282
- Differences in the amount of toxic chemicals produced might be a function of differences in production processes.
- If investors seek to keep the less polluting companies within a broad range of sectors, screening out the biggest polluters might be equivalent to screening out some entire sectors.

Comparison group

28	Chemicals and Allied Products
281	Industrial inorganic chemicals
282	Plastics materials and synthetics
283	Drugs
284	Soaps, cleaners, and toilet goods
285	Paints and allied products
286	Industrial organic chemicals
287	Agricultural chemicals
289	Miscellaneous chemical products

Company	SIC	Description
Avon Products, Inc.	2844	Perfumes, Cosmetics, and Other Toilet Preparations
Clorox Company	2819	Industrial Inorganic Chemicals
Colgate-Palmolive	2841	Soaps and Other Detergents, Except Specialty Cleaners
Dow Chemical Company	2812, 2813, 2819, 2842, 2869, 2899	Alkalies and Chlorine Manufacturing; Industrial Gas Manufacturing (pt); Alumina Refining; Polish and Other Sanitation Good Manufacturing; Industrial Organic Chemicals, NEC; Chemicals and Chemical Preparations, NEC
DuPont Company	2812, 2822, 2824, 2834, 2851, 2869, 2899	Alkalies and Chlorine Manufacturing; Industrial Organic Chemicals, NEC
Eastman Chemical Company	2819, 2821, 2899	Industrial Inorganic Chemicals, Plastics Materials, Synthetic and Resins, and Nonvulcanizable Elastomers, Chemicals and Chemical Preparations; Chemicals and Chemical Preparations, NEC
Ecolab Inc.	2841, 2842	Soaps and Other Detergents, Except Specialty Cleaners, Specialty Cleaning, Polishing, and Sanitation Preparations
International Flavors	2869	Industrial Organic Chemicals, NEC
Johnson & Johnson	2834, 2844	Pharmaceutical Preparations, Perfumes, Cosmetics, and Other Toilet Preparations
Lilly (Eli)	2834	Pharmaceutical Preparations
Merck & Co., Inc.	2834	Pharmaceutical Preparations
Pfizer, Inc.	2843	Surface Active Agents, Finishing Agents, Sulfonated Oils, and Assistants
Procter & Gamble Company	2834, 2841, 2843	Pharmaceutical Preparations, Soaps and Other Detergents, Surface Active Agents, Finishing Agents, Sulfonated Oils, and Assistants

Firm	Headquarter Location	US Sales (Millions)	Total Sales (Millions)	SIC Code 3 Digits	SIC Code Description
Avon Products, Inc.	New York, NY	2,141	8,150	284	Soap cleaner and toilet goods sector
Clorox Company	Oakland, CA	3,800	4,388	284	
Colgate-Palmolive Company	New York, NY	2,507	11,397	284	Plastics Materials, Synthetic Resins, and synthetic rubber sector
DIAL	Germany (Henkel)	N/A	N/A		
Dow Chemical Company	Midland, MI	17,597	46,307	282	
DuPont Company	Wilmington, DE	11,129	27,516	282	
Eastman Chemical Company	Kingsport, TN	4,098	7,059	282	Soap cleaner and toilet goods sector
Ecolab Inc.	Saint Paul, MN	2,327	4,535	284	
International Flavors & Fragrances Inc.	New York, NY	572	1,993	286	Industrial Organic Chemicals
Johnson & Johnson	New Brunswick, NJ	28,400	50,434	283	
Lilly (Eli) and Company	Indianapolis, IN	7,800	14,645	283	
Merck & Co., Inc.	Whitehouse Station, NJ	12,767	22,012	283	
Pfizer, Inc.	New York, NY	26,664	51,298	283	Soap cleaner and toilet goods sector
Procter & Gamble Company	Cincinnati, OH	27,236	56,741	284	

10. How to integrate time?

Static vs dynamic comparison

- If rating aims at forecasting long-term performance it should use longitudinal data
- Lag changes: it might take a few years before implemented changes have an effect on performance
- Specific year could be an outlier: for example no trend between 5 years of RSEI and 2005

Trends

Firm	Rank based on RSEI Risk Score 2012	Rank based on RSEI trend 2009-2012
Avon	1	4
Clorox	2	2
Colgate-Palmolive	3	11
Ecolab	4	12
Procter & Gamble	5	1
Eli Lilly	6	8
Int'l Flavors & Fragrances	7	10
Merck	8	3
Pfizer	9	7
Johnson & Johnson	10	13
Dow Chemical	11	6
Eastman Chemical	12	5
DuPont	13	9

11. How credible is the rating?

Credibility of the methodology

- Establish a credible process to gather information
- Example SAM
- Transparency in the methodology is key so results can be duplicated and verified

Use variables that reflect both real environmental impact and management practices

Firm	TRI (total pounds)	RSEI (risk 02)	ECHO (Non- Compliance Quarters)	Reporting (7 criteria)
Avon Products, Inc.	1	1	7	15
Ecolab Inc.	2	6	6	3
Clorox Company	3	7	5	13
Colgate-Palmolive Company	4	3	1	7
International Flavors & Fragrances Inc.	5	2	1	13
Johnson & Johnson	6	4	4	3
Procter & Gamble Company	7	11	8	7
Merck & Co., Inc.	8	5	14	3
Pfizer, Inc.	9	9	11	7
Lilly (Eli) and Company	10	8	15	3
Rohm and Haas Company	11	10	10	7
Eastman Chemical Company	12	13	12	12
Dow Chemical Company	13	12	9	2
DuPont Company	14	14	13	1
Dial Corporation	N/A	N/A	1	7

The challenges of measuring Corporate Environmental Performance

- Positive or Negative Screening?
 - Include both positive and negative screenings
- Assigning Weights to Environmental Performance Indicators
 - Often arbitrary, be transparent
- Choosing Indicators wisely
 - Include credible information (survey with third party verification)
 - Include physical indicators as well as input/management indicators
- Choosing the Appropriate Comparison Group
 - Compare what is comparable
- Favoring a Longitudinal approach

Final recommendations

- Be clear about the goal of the evaluation
- Be transparent on the criteria used
- Use both negative and positive screening
- Use a methodology that reflects both real environmental impact and management practices
- Be specific on the comparison group
- Favor a longitudinal approach

KLD/TRI Group exercise

Criteria

- Read the case study
- Each group will evaluate the environmental performance of 6 firms in the chemical industry using data from MSCI KLD (<http://www.kld.com/>) and the EPA Toxic Release Inventory (<http://www.epa.gov/tri/>) provided on the class website. Describe the criteria you choose and why. Before class, you must upload a five-slide PowerPoint presentation of your findings and an Excel spreadsheet with your ranking on the class website.
- The firms to compare are the following: Avon Products, Inc.; Clorox Company; Colgate-Palmolive Company; Dow Chemical Company; DuPont Company; and Pfizer, Inc.

Tuesday: KLD/ TRI

- 5 slides Powerpoint Present information clearly
- Describe rational for choice of metrics. Explain aggregation methodology.
- Discuss issues of aggregating TRI/KLD
- *Make use of financial data (sales, cost of good sold etc...)*
- *Highlight limitations of KLD*
- *Highlight limitations of their methodology and make recommendations about methodology*

Thursday: Carbon Disclosure Project

- Carbon Disclosure Project
- CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts
- The CDP asks companies for data on their environmental performance in climate change, supply chain, water, and forests. Response is voluntary; in 2012, the response rate to the questionnaire was approximately 45%.
- The spreadsheet has CDP data for 3 consecutive years (it also includes the TRI and KLD data). It includes information about: whether the company responded to the CDP questionnaire; whether the company published information about emissions performance in annual reports, financial reports, voluntary communications, and regulatory filings; the company's Scope 1 and Scope 2 emissions; and the percentage of Scope 1 and Scope 2 emissions that are verified by a third party.

Thursday exercise

- Output: 5-slide PowerPoint presentation of your findings and the Excel spreadsheet that contains your data analysis.
- Study the CDP data from the same companies we analyzed in Session 14:
- Do all the companies report their Co2 emissions (Scope 1 and 2)? Are the companies' climate performance improving over the years?
- Examine the percentages of companies' emissions that are verified by third-parties: How important is third-party verification?
- Weighing all factors available, which companies do the best job at reporting their emissions?
- Please compare your rating of firm's climate change performance to your previous rating based on KLD and TRI. How do these differ? Which data you think is the most valuable for investment purposes? Based on these 2 datasets, which companies would you invest in? Please provide a rating of firm's climate change performance.

Individual Assignment #3 - Socially Responsible Investing (SRI)

Prompt: According to you, what are the main screening challenges associated with Socially Responsible Investing and what should be the principles of a good screening methodology?

- A good methodology will address the challenges associated with screening
- Think about the challenges you found when looking at the KLD, TRI, and CDP data for the chemical companies
 - What were the good aspects of the KLD data? The TRI data? The CDP data?
 - What were the challenges of using and understanding these sets of data?
- Please use the suggested readings as well as your ranking of the chemical companies to build your argument
- 2 pg max, 12 pt, 1" margins, single spaced. Due Monday, Nov 23, 9:00 PM